

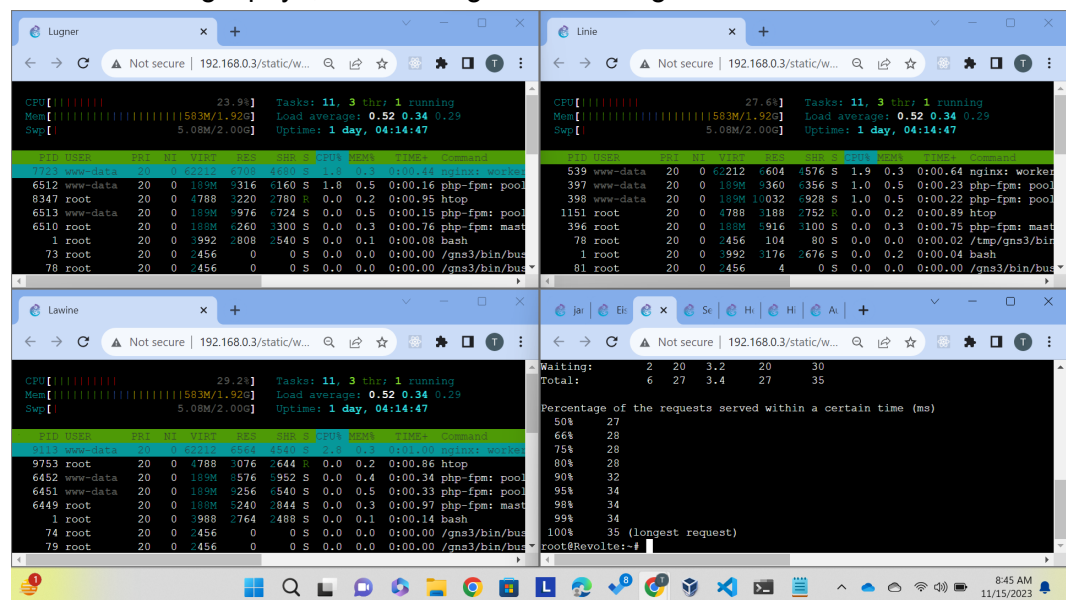
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Jaringan Komputer F

Grimoire – Praktikum Modul 3

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- I. Hasil Testing (SS http dan output apache benchmark)
 - A. Round Robin (200 req dan 10 req/sec)

Testing dengan algoritma round robin dengan 200 request memiliki 133 request gagal, 366.67 rps, dan time per request 27.272 ms. Penggunaan cpu di tiap worker yaitu 23.9% pada Lugner, 27.6% pada Linie, dan 29.24% pada Lawine. Untuk lebih lengkapnya, hasil testing adalah sebagai berikut:



```

Finished 200 requests

Server Software:      nginx/1.14.2
Server Hostname:      192.226.2.2
Server Port:          80

Document Path:        /
Document Length:      624 bytes

Concurrency Level:     10
Time taken for tests:   0.545 seconds
Complete requests:     200
Failed requests:       133
    (Connect: 0, Receive: 0, Length: 133, Exceptions: 0)
Total transferred:     152333 bytes
HTML transferred:     124933 bytes
Requests per second:   366.67 [#/sec] (mean)
Time per request:      27.272 [ms] (mean)
Time per request:      2.727 [ms] (mean, across all concurrent requests)
Transfer rate:         272.74 [Kbytes/sec] received

Connection Times (ms)
              min    mean[+/-sd] median    max
Connect:        2      6   1.7      6     10
Processing:      3     21   3.1     20     30
Waiting:         2     20   3.2     20     30
Total:           6     27   3.4     27     35

Percentage of the requests served within a certain time (ms)
 50%    27
 66%    28
 75%    28
 80%    28
 90%    32
 95%    34
 98%    34
 99%    34
100%    35 (longest request)

```

B. Least Connection (200 req dan 10 req/sec)

Testing dengan algoritma least connection dengan 200 request memiliki 60 request gagal, 383.86 rps, dan time per request 26.051 ms. Penggunaan cpu di tiap worker yaitu 24.3% pada Lugner, 24.1% pada Linie, dan 23.4% pada Lawine. Untuk lebih lengkapnya, hasil testing adalah sebagai berikut:

The image displays four terminal windows showing the results of a performance test using the 'least connection' algorithm across three different server configurations: Lugner, Linie, and Lawine. Each window shows the following information:

- CPU Usage:** 24.3% for Lugner, 24.1% for Linie, and 23.4% for Lawine.
- Memory Usage:** 582M/1.92G for all three configurations.
- Tasks:** 11, 3 thr: 1 running.
- Load Average:** 0.45 0.39 0.31.
- Uptime:** 1 day, 04:19:04.
- Process Table:** A detailed table showing the state of various processes, including PID, USER, PRI, NI, WIO, RSS, SHR, S, CPU%, MEM%, TIME+, and Command.

The process table for Lugner shows the following processes:

PID	USER	PRI	NI	WIO	RSS	SHR	S	CPU%	MEM%	TIME+	Command
6512	www-data	20	0	189M	316	160	S	0.9	0.5	0:00.31	php-fpm: pool
6513	www-data	20	0	189M	976	674	S	0.9	0.5	0:00.29	php-fpm: pool
8347	root	20	0	4788	1220	2780	R	0.9	0.2	0:01.18	htop
6510	root	20	0	188M	260	3300	S	0.0	0.3	0:00.80	php-fpm: mast
1	root	20	0	3992	2808	2540	S	0.0	0.1	0:00.08	bash
73	root	20	0	2456	0	0	S	0.0	0.0	0:00.00	/gnss3/bin/bus
78	root	20	0	2456	0	0	S	0.0	0.0	0:00.00	/gnss3/bin/bus

The process table for Linie shows the following processes:

PID	USER	PRI	NI	WIO	RSS	SHR	S	CPU%	MEM%	TIME+	Command
539	www-data	20	0	62212	604	4576	S	1.9	0.3	0:01.00	nginx: worker
398	www-data	20	0	189M	10032	6928	S	0.9	0.5	0:00.35	php-fpm: pool
1151	root	20	0	4788	1188	2752	R	0.0	0.2	0:01.11	htop
397	www-data	20	0	189M	8360	6356	S	0.0	0.5	0:00.34	php-fpm: pool
396	root	20	0	188M	5916	3100	S	0.0	0.3	0:00.79	php-fpm: mast
78	root	20	0	2456	104	80	S	0.0	0.0	0:00.02	/tmp/gnss3/bin
1	root	20	0	3992	1176	2676	S	0.0	0.2	0:00.04	bash
81	root	20	0	2456	4	0	S	0.0	0.0	0:00.00	/gnss3/bin/bus

The process table for Lawine shows the following processes:

PID	USER	PRI	NI	WIO	RSS	SHR	S	CPU%	MEM%	TIME+	Command
6452	www-data	20	0	189M	576	5552	S	1.9	0.4	0:00.49	php-fpm: pool
9753	root	20	0	4788	1076	2644	R	0.0	0.2	0:01.09	htop
6451	www-data	20	0	189M	256	5540	S	0.0	0.5	0:00.46	php-fpm: pool
6449	root	20	0	188M	240	2844	S	0.0	0.3	0:01.01	php-fpm: mast
1	root	20	0	3988	2764	2488	S	0.0	0.1	0:00.14	bash
74	root	20	0	2456	0	0	S	0.0	0.0	0:00.00	/gnss3/bin/bus
79	root	20	0	2456	0	0	S	0.0	0.0	0:00.00	/gnss3/bin/bus

The percentage of requests served within a certain time (ms) for Lawine is as follows:

Percentage	Time (ms)
50%	25
66%	26
75%	27
80%	28
90%	29
95%	32
98%	33
99%	33
100%	34 (longest request)

```

Finished 200 requests

Server Software:      nginx/1.14.2
Server Hostname:      192.226.2.2
Server Port:          80

Document Path:        /
Document Length:      625 bytes

Concurrency Level:    10
Time taken for tests:  0.521 seconds
Complete requests:    200
Failed requests:       60
  (Connect: 0, Receive: 0, Length: 60, Exceptions: 0)
Total transferred:    152340 bytes
HTML transferred:     124940 bytes
Requests per second:  383.86 [#/sec] (mean)
Time per request:     26.051 [ms] (mean)
Time per request:     2.605 [ms] (mean, across all concurrent requests)
Transfer rate:        285.54 [Kbytes/sec] received

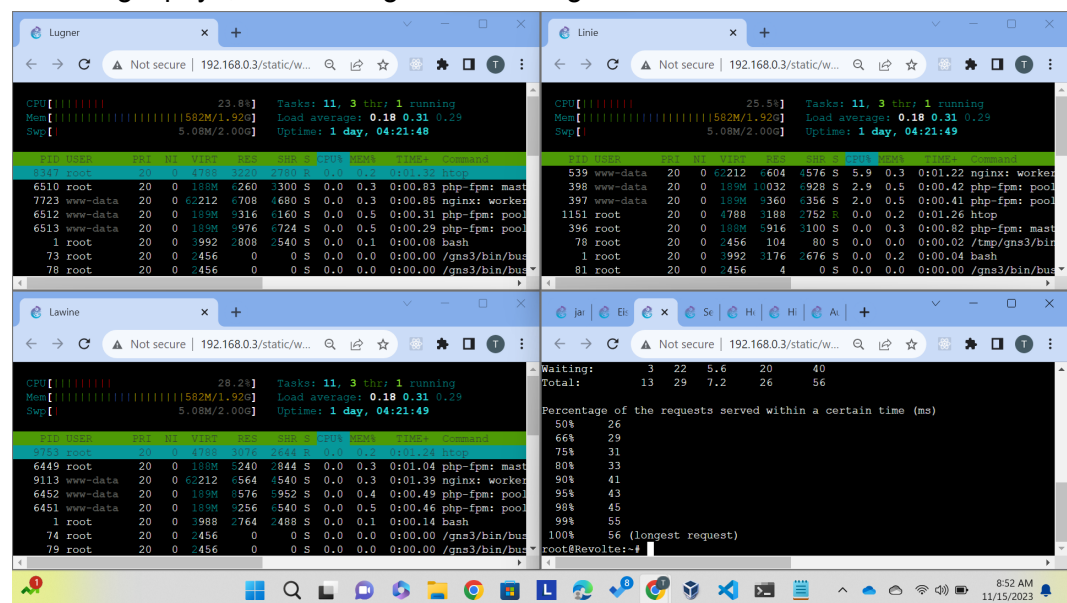
Connection Times (ms)
              min    mean[+/-sd] median    max
Connect:        1     5   1.6      5      11
Processing:      5    20   2.9     20     29
Waiting:        4    20   2.9     20     29
Total:          6    26   3.0     25     34

Percentage of the requests served within a certain time (ms)
 50%    25
 66%    26
 75%    27
 80%    28
 90%    29
 95%    32
 98%    33
 99%    33
100%    34 (longest request)

```

C. IP_Hash (200 req dan 10 req/sec)

Testing dengan algoritma ip_hash dengan 200 request memiliki 0 request gagal, 338.37 rps, dan time per request 29.554 ms. Penggunaan cpu di tiap worker yaitu 23.8% pada Lugner, 25.5% pada Linie, dan 28.2% pada Lawine. Untuk lebih lengkapnya, hasil testing adalah sebagai berikut:



```

Completed 200 requests
Finished 200 requests

Server Software:      nginx/1.14.2
Server Hostname:      192.226.2.2
Server Port:          80

Document Path:        /
Document Length:       624 bytes

Concurrency Level:     10
Time taken for tests:   0.591 seconds
Complete requests:     200
Failed requests:        0
Total transferred:     152200 bytes
HTML transferred:      124800 bytes
Requests per second:   338.37 [#/sec] (mean)
Time per request:      29.554 [ms] (mean)
Time per request:      2.955 [ms] (mean, across all concurrent requests)
Transfer rate:         251.46 [Kbytes/sec] received

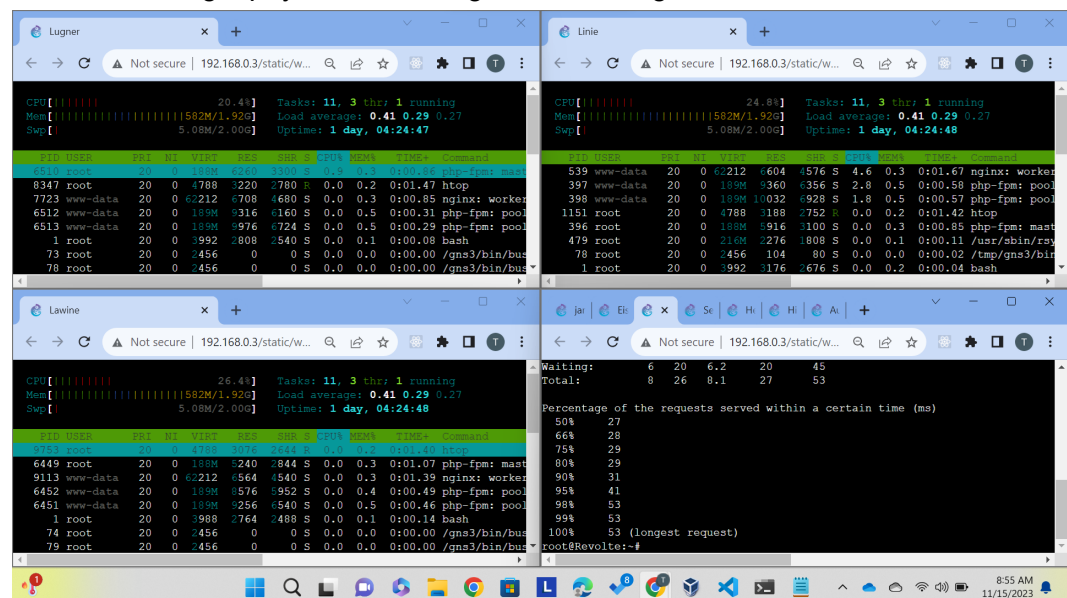
Connection Times (ms)
              min    mean[+/-sd] median    max
Connect:        1      7   3.2      6     18
Processing:      4     22   5.6     20     40
Waiting:        3     22   5.6     20     40
Total:         13     29   7.2     26     56

Percentage of the requests served within a certain time (ms)
 50%    26
 66%    29
 75%    31
 80%    33
 90%    41
 95%    43
 98%    45
 99%    55
100%    56 (longest request)

```

D. Generic_Hash (200 req dan 10 req/sec)

Testing dengan algoritma generic_hash dengan 200 request memiliki 0 request gagal, 373.94 rps, dan time per request 26.743 ms. Penggunaan cpu di tiap worker yaitu 20.4% pada Lugner, 24.8% pada Linie, dan 26.4% pada Lawine. Untuk lebih lengkapnya, hasil testing adalah sebagai berikut:



```

Completed 200 requests
Finished 200 requests

Server Software:      nginx/1.14.2
Server Hostname:      192.226.2.2
Server Port:          80

Document Path:        /
Document Length:       624 bytes

Concurrency Level:     10
Time taken for tests:  0.535 seconds
Complete requests:     200
Failed requests:        0
Total transferred:     152200 bytes
HTML transferred:      124800 bytes
Requests per second:   373.94 [#/sec] (mean)
Time per request:      26.743 [ms] (mean)
Time per request:      2.674 [ms] (mean, across all concurrent requests)
Transfer rate:         277.90 [Kbytes/sec] received

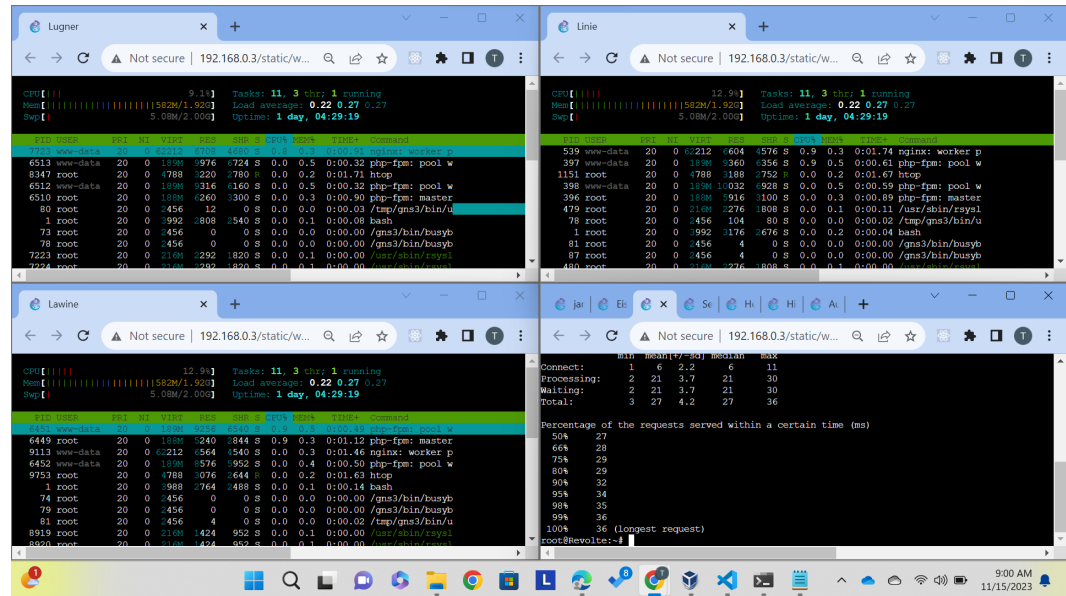
Connection Times (ms)
      min    mean[+/-sd] median    max
Connect:    0      6   3.3      6     24
Processing:  6     20   6.3     20     45
Waiting:    6     20   6.2     20     45
Total:      8     26   8.1     27     53

Percentage of the requests served within a certain time (ms)
 50%    27
 66%    28
 75%    29
 80%    29
 90%    31
 95%    41
 98%    53
 99%    53
100%    53 (longest request)

```

E. Round Robin (3 worker 100 req dan 10 req/sec)

Testing dengan algoritma round robin menggunakan 3 worker dengan 100 request memiliki 33 request gagal, 364.83 rps, dan time per request 27.41 ms. Penggunaan cpu di tiap worker yaitu 9.14% pada Lugner, 12.91% pada Linie, dan 12.91% pada Lawine. Untuk lebih lengkapnya, hasil testing adalah sebagai berikut:



```

Server Software:      nginx/1.14.2
Server Hostname:      192.226.2.2
Server Port:          80

Document Path:        /
Document Length:      625 bytes

Concurrency Level:    10
Time taken for tests:  0.274 seconds
Complete requests:    100
Failed requests:      33
    (Connect: 0, Receive: 0, Length: 33, Exceptions: 0)
Total transferred:    76167 bytes
HTML transferred:     62467 bytes
Requests per second:  364.83 [#./sec] (mean)
Time per request:     27.410 [ms] (mean)
Time per request:     2.741 [ms] (mean, across all concurrent requests)
Transfer rate:        271.36 [Kbytes/sec] received

Connection Times (ms)
              min  mean[+/-sd] median  max
Connect:      1   6   2.2      6    11
Processing:   2  21   3.7     21    30
Waiting:      2  21   3.7     21    30
Total:        3  27   4.2     27    36

Percentage of the requests served within a certain time (ms)
 50%    27
 66%    28
 75%    29
 80%    29
 90%    32
 95%    34
 98%    35
 99%    36
100%    36 (longest request)

```

- F. Round Robin (2 worker 100 req dan 10 req/sec)
- Testing dengan algoritma round robin menggunakan 2 worker dengan 100 request memiliki 50 request gagal, 387.4 rps, dan time per request 25.813 ms. Penggunaan cpu di tiap worker yaitu 14.24% pada Linie, dan 14.04% pada Lawine. Untuk lebih lengkapnya, hasil testing adalah sebagai berikut:

```

CPU[|||||] 14.0% Tasks: 11, 3 thr: 1 running
Mem[|||||] 5.08M/2.00G Load average: 0.08 0.23 0.26
Swap[|] Optime: 1 day, 04:37:35

PID USER      ST  PRI  VSZ  RSS   SHR S  CPU   TIME     COMMAND
1111 www-data  20    0 6212  556  450 S  0.0 0:01.67 nginx: worker p
6451 www-data  20    0 1890  926  450 S  0.0 0:00.56 php-fpm: pool w
6452 www-data  20    0 1890  856  592 S  0.0 0:00.57 php-fpm: pool w
6449 root      20    0 1890  5240 2844 S  0.0 0:01.20 php-fpm: master
1 root     20    0 3988  2764 2488 S  0.0 0:00.15 bash
74 root    20    0 2456  0 0 S  0.0 0:00.00 /gnss3/bin/buayb
79 root    20    0 2456  0 0 S  0.0 0:00.00 /gnss3/bin/buayb
81 root    20    0 2456  4 0 S  0.0 0:00.03 /tmp/gnss3/bin/u
8919 root    20    0 2108 1424 952 S  0.0 0:00.00 /usr/sbin/rsysl
8920 root    20    0 2108 1424 952 S  0.0 0:00.00 /usr/sbin/rsysl

min mean[+/-sd] median max
Connect: 1 6 1.9 6 13
Processing: 2 20 2.7 19 25
Waiting: 2 19 2.7 19 25
Total: 3 25 3.8 25 34

Percentage of the requests served within a certain time (ms)
50% 25
66% 26
75% 27
80% 27
90% 30
95% 32
98% 33
99% 34
100% 34 (longest request)
root@revolve:~#

```

```

Server Software:      nginx/1.14.2
Server Hostname:      192.226.2.2
Server Port:          80

Document Path:        /
Document Length:       625 bytes

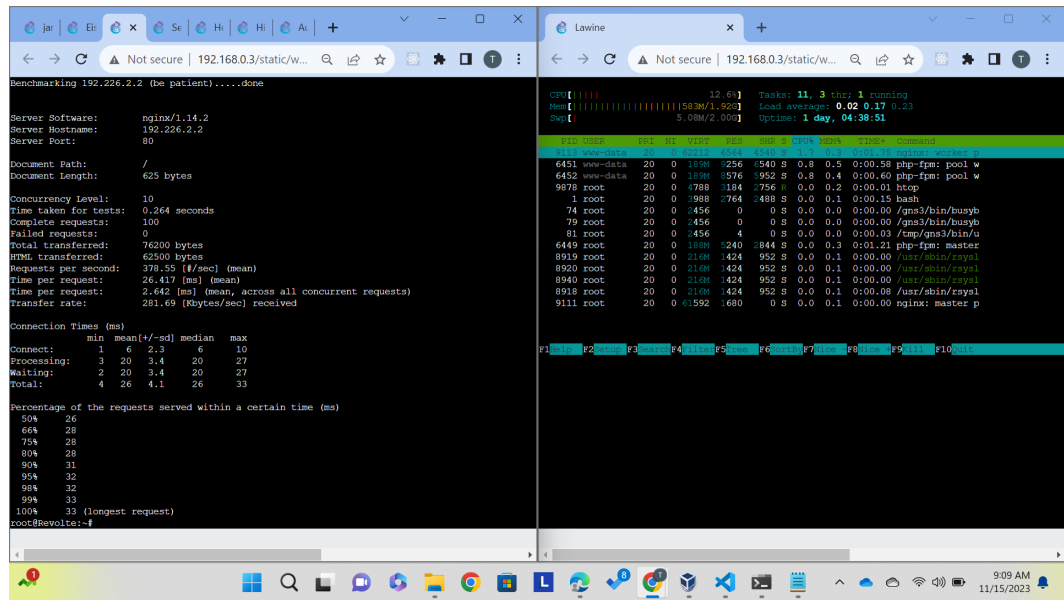
Concurrency Level:     10
Time taken for tests:  0.258 seconds
Complete requests:     100
Failed requests:       50
    (Connect: 0, Receive: 0, Length: 50, Exceptions: 0)
Total transferred:     76150 bytes
HTML transferred:     62450 bytes
Requests per second:   387.40 [#/sec] (mean)
Time per request:      25.813 [ms] (mean)
Time per request:      2.581 [ms] (mean, across all concurrent requests)
Transfer rate:         288.09 [Kbytes/sec] received

Connection Times (ms)
              min  mean[+/-sd] median  max
Connect:      1   6  1.9  6    13
Processing:   2  20  2.7  19   25
Waiting:      2  19  2.7  19   25
Total:        3  25  3.8  25   34

Percentage of the requests served within a certain time (ms)
50% 25
66% 26
75% 27
80% 27
90% 30
95% 32
98% 33
99% 34
100% 34 (longest request)

```

- G. Round Robin (1 worker 100 req dan 10 req/sec)
- Testing dengan algoritma round robin menggunakan 1 worker dengan 100 request memiliki 0 request gagal, 378.55 rps, dan time per request 26.417 ms. Penggunaan cpu di tiap worker yaitu 12.68% pada Lawine. Untuk lebih lengkapnya, hasil testing adalah sebagai berikut:



```
Server Software:      nginx/1.14.2
Server Hostname:      192.226.2.2
Server Port:          80
Document Path:        /
Document Length:      625 bytes
Concurrency Level:    10
Time taken for tests:  0.264 seconds
Complete requests:    100
Failed requests:      0
Total transferred:    76200 bytes
HTML transferred:     62500 bytes
Requests per second:  378.55 [#/sec] (mean)
Time per request:      26.417 [ms] (mean)
Time per request:      2.642 [ms] (mean, across all concurrent requests)
Transfer rate:         281.69 [Kbytes/sec] received

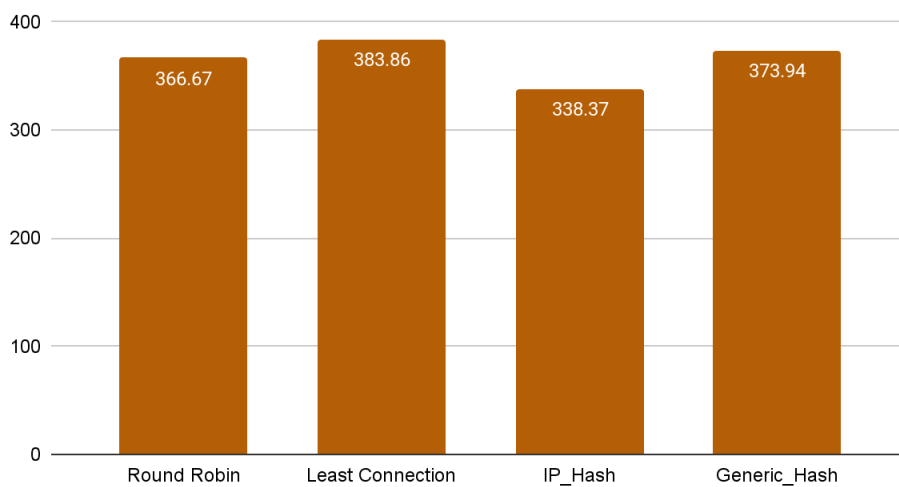
Connection Times (ms)
  min  mean[+/-sd] median  max
Connect:    1   6  2.3      6   10
Processing:  3  20  3.4     20   27
Waiting:    2  20  3.4     20   27
Total:       4  26  4.1     26   33

Percentage of the requests served within a certain time (ms)
 50%    26
 66%    28
 75%    28
 80%    28
 90%    31
 95%    32
 98%    32
 99%    33
100%    33 (longest request)
```

II. Grafik

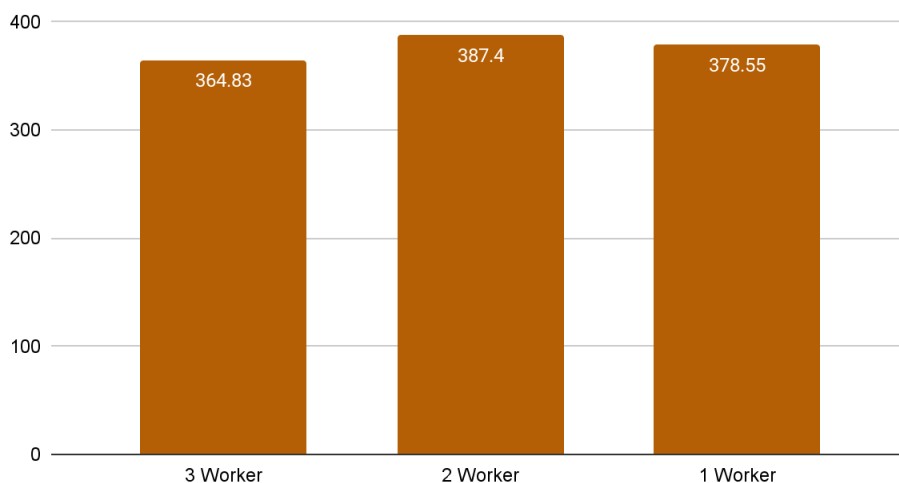
A. 200 request dan 10 request/second dengan 4 macam algoritma

200 req dan 10 req/sec



B. Round Robin 100 request dan 10 request/second dengan variasi jumlah worker

Round Robin 100 req dan 10 req/sec



III. Analisis

Dari keempat algoritma, urutan algoritma dengan performa terbaik berdasarkan rps adalah Least Connection, Generic Hash, Round Robin, dan IP Hash. Least connection memiliki performa terbaik karena algoritma ini akan mencari worker dengan koneksi paling sedikit. Dengan begitu, request yang masuk dapat diproses lebih cepat karena akan dikerjakan oleh worker yang paling seenggang. Kemerataan ini dapat dilihat dari penggunaan cpu worker yang lebih merata. Pada algoritma least connection, penggunaan cpu tiap worker ketiganya berada di 24 dan 23%.

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I. Hasil Testing

A. POST /auth/register

Testing pada endpoint /auth/register dengan 100 request dan 10 request/second memiliki 99 request gagal, 34.35 rps, dan time per request 291.091 ms. Untuk lebih lengkapnya, hasil testing adalah sebagai berikut:

```
Server Hostname: 192.226.2.2
Server Port: 81

Document Path: /api/auth/register
Document Length: 466 bytes

Concurrency Level: 10
Time taken for tests: 2.911 seconds
Complete requests: 100
Failed requests: 99
  (Connect: 0, Receive: 0, Length: 99, Exceptions: 0)
Non-2xx responses: 99
Total transferred: 28672 bytes
Total body sent: 21700
HTML transferred: 3964 bytes
Requests per second: 34.35 [#/sec] (mean)
Time per request: 291.091 [ms] (mean)
Time per request: 29.109 [ms] (mean, across all concurrent requests)
Transfer rate: 9.62 [Kbytes/sec] received
              7.28 kb/s sent
              16.90 kb/s total

Connection Times (ms)
          min  mean[+/-sd] median  max
Connect:    0    1  1.0      0     8
Processing:  1  154 186.1    120  1459
Waiting:    1  153 186.1    119  1457
Total:      1  154 186.3    120  1463

Percentage of the requests served within a certain time (ms)
 50%    120
 66%    206
 75%    252
 80%    276
 90%    346
 95%    399
 98%    501
 99%   1463
100%   1463 (longest request)
```

B. POST /auth/login

Testing pada endpoint /auth/login dengan 100 request dan 10 request/second memiliki 33 request gagal, 13.48 rps, dan time per request 741.612 ms. Untuk lebih lengkapnya, hasil testing adalah sebagai berikut:

```

Server Hostname: 192.226.2.2
Server Port: 81

Document Path: /api/auth/login
Document Length: 335 bytes

Concurrency Level: 10
Time taken for tests: 7.416 seconds
Complete requests: 100
Failed requests: 33
  (Connect: 0, Receive: 0, Length: 33, Exceptions: 0)
Non-2xx responses: 33
Total transferred: 46554 bytes
Total body sent: 21400
HTML transferred: 22445 bytes
Requests per second: 13.48 [#/sec] (mean)
Time per request: 741.612 [ms] (mean)
Time per request: 74.161 [ms] (mean, across all concurrent requests)
Transfer rate: 6.13 [Kbytes/sec] received
                2.82 kb/s sent
                8.95 kb/s total

Connection Times (ms)
      min    mean[+/-sd] median    max
Connect:    0      0  0.8      0      4
Processing:  1  718 557.8    947   2145
Waiting:    1  718 557.9    947   2145
Total:      1  719 557.8    947   2145

Percentage of the requests served within a certain time (ms)
 50%    947
 66%   1044
 75%   1122
 80%   1161
 90%   1295
 95%   1506
 98%   1679
 99%   2145
100%   2145 (longest request)

```

C. GET /me

Testing pada endpoint /me dengan 100 request dan 10 request/second memiliki 33 request gagal, 30.12 rps, dan time per request 331.992 ms. Untuk lebih lengkapnya, hasil testing adalah sebagai berikut:

```

Server Software:      nginx/1.14.2
Server Hostname:      192.226.2.2
Server Port:          81

Document Path:        /api/me
Document Length:       29 bytes

Concurrency Level:     10
Time taken for tests:   3.320 seconds
Complete requests:     100
Failed requests:        33
    (Connect: 0, Receive: 0, Length: 33, Exceptions: 0)
Non-2xx responses:     67
Total transferred:     34773 bytes
HTML transferred:      5870 bytes
Requests per second:   30.12 [#/sec] (mean)
Time per request:      331.992 [ms] (mean)
Time per request:      33.199 [ms] (mean, across all concurrent requests)
Transfer rate:         10.23 [Kbytes/sec] received

Connection Times (ms)
              min    mean[+/-sd] median    max
Connect:        0      2   4.3         0     21
Processing:    21    318 285.3       217    964
Waiting:       21    317 285.3       216    962
Total:         21    320 285.5       217    964

Percentage of the requests served within a certain time (ms)
 50%    217
 66%    395
 75%    580
 80%    633
 90%    751
 95%    916
 98%    958
 99%    964
100%    964 (longest request)

```

D. PHP-FPM Default

Testing pada implementasi php-fpm dengan pengaturan default dengan 100 request dan 10 request/second memiliki 0 request gagal, 899 rps, dan time per request 11.123 ms. Untuk lebih lengkapnya, hasil testing adalah sebagai berikut:

```

Server Software:      nginx/1.14.2
Server Hostname:      192.226.2.2
Server Port:          80

Document Path:        /
Document Length:      169 bytes

Concurrency Level:    10
Time taken for tests:  0.111 seconds
Complete requests:    100
Failed requests:      0
Non-2xx responses:    100
Total transferred:    31900 bytes
HTML transferred:     16900 bytes
Requests per second:  899.00 [#/sec] (mean)
Time per request:     11.123 [ms] (mean)
Time per request:     1.112 [ms] (mean, across all concurrent requests)
Transfer rate:        280.06 [Kbytes/sec] received

Connection Times (ms)
              min    mean[+/-sd] median    max
Connect:      1      5   2.4      5      10
Processing:   1      6   3.1      6      14
Waiting:      0      6   2.9      6      13
Total:        3     11   4.8     12     20

Percentage of the requests served within a certain time (ms)
 50%    12
 66%    13
 75%    14
 80%    14
 90%    17
 95%    19
 98%    20
 99%    20
100%    20 (longest request)

```

E. PHP-FPM Penambahan 1

Testing pada implementasi php-fpm dengan pengaturan penambahan 1 dengan 100 request dan 10 request/second memiliki 0 request gagal, 910.98 rps, dan time per request 10.977 ms. Untuk lebih lengkapnya, hasil testing adalah sebagai berikut:

```

Server Software:      nginx/1.14.2
Server Hostname:      192.226.2.2
Server Port:          80

Document Path:        /
Document Length:      169 bytes

Concurrency Level:    10
Time taken for tests:  0.110 seconds
Complete requests:    100
Failed requests:      0
Non-2xx responses:    100
Total transferred:    31900 bytes
HTML transferred:     16900 bytes
Requests per second:  910.98 [#/sec] (mean)
Time per request:     10.977 [ms] (mean)
Time per request:     1.098 [ms] (mean, across all concurrent requests)
Transfer rate:        283.79 [Kbytes/sec] received

Connection Times (ms)
  min  mean[+/-sd] median   max
Connect:    1    5   1.9      5     8
Processing:  1    5   1.9      6     9
Waiting:    1    5   1.9      6     9
Total:      4   10   2.6     11    16

Percentage of the requests served within a certain time (ms)
 50%    11
 66%    12
 75%    12
 80%    12
 90%    13
 95%    13
 98%    16
 99%    16
100%    16 (longest request)
root@Revolte:~#

```

F. PHP-FPM Penambahan 2

Testing pada implementasi php-fpm dengan pengaturan penambahan 2 dengan 100 request dan 10 request/second memiliki 0 request gagal, 1025.54 rps, dan time per request 9.751 ms. Untuk lebih lengkapnya, hasil testing adalah sebagai berikut:

```

Server Software:      nginx/1.14.2
Server Hostname:      192.226.2.2
Server Port:          80

Document Path:        /
Document Length:      169 bytes

Concurrency Level:    10
Time taken for tests:  0.098 seconds
Complete requests:    100
Failed requests:      0
Non-2xx responses:    100
Total transferred:    31900 bytes
HTML transferred:     16900 bytes
Requests per second:  1025.54 [#/sec] (mean)
Time per request:     9.751 [ms] (mean)
Time per request:     0.975 [ms] (mean, across all concurrent requests)
Transfer rate:        319.48 [Kbytes/sec] received

Connection Times (ms)
              min    mean[+/-sd] median    max
Connect:      1      4   2.1      4      10
Processing:   1      5   2.1      4      10
Waiting:      1      5   2.1      4      10
Total:        4      9   3.5      7      18

Percentage of the requests served within a certain time (ms)
 50%    7
 66%   11
 75%   11
 80%   12
 90%   15
 95%   17
 98%   18
 99%   18
100%   18 (longest request)
root@Revolte:~#

```

G. PHP-FPM Penambahan 3

Testing pada implementasi php-fpm dengan pengaturan penambahan 3 dengan 100 request dan 10 request/second memiliki 0 request gagal, 1347.84 rps, dan time per request 7.419 ms. Untuk lebih lengkapnya, hasil testing adalah sebagai berikut:

```

Server Software:      nginx/1.14.2
Server Hostname:      192.226.2.2
Server Port:          80

Document Path:        /
Document Length:      169 bytes

Concurrency Level:    10
Time taken for tests:  0.074 seconds
Complete requests:    100
Failed requests:      0
Non-2xx responses:    100
Total transferred:    31900 bytes
HTML transferred:     16900 bytes
Requests per second:  1347.84 [#/sec] (mean)
Time per request:     7.419 [ms] (mean)
Time per request:     0.742 [ms] (mean, across all concurrent requests)
Transfer rate:        419.88 [Kbytes/sec] received

Connection Times (ms)
      min    mean[+/-sd] median    max
Connect:    1      3   0.8      3      5
Processing:  2      4   1.1      4      6
Waiting:    1      4   1.1      4      6
Total:      4      7   1.5      7     10

Percentage of the requests served within a certain time (ms)
 50%      7
 66%      8
 75%      8
 80%      8
 90%      8
 95%     10
 98%     10
 99%     10
100%     10 (longest request)

```

II. Analisis

Dari keempat pengaturan php-fpm, urutan pengaturan dengan kinerja terbaik berdasarkan rps adalah penambahan 3x, penambahan 2x, penambahan 1x, dan pengaturan *default*. Pengaturan penambahan 3x memberikan kinerja terbaik berdasarkan rps karena akan membuat *child process* yang banyak pada saat *server* menyala. Akan tetapi, pengaturan ini juga sebaiknya dilihat dari sisi sumber daya yang digunakan. Semakin tinggi penambahan yang digunakan, semakin tinggi pula sumber daya yang digunakan. Maka sebaiknya tidak hanya dinilai dari rps atau *request per second*.